## **AMENDMENTS TO THE CLAIMS**

The listing of claims will replace all prior versions and listings of claims in the application:

## **Listing of Claims:**

1. (Currently Amended) A vertical cavity surface emitting laser (VCSEL) comprising:

a first mirror;

an active area situated on said first mirror;

a dielectric gain guide situated on said active area, wherein the dielectric gain is deposited on the active area according to a pattern in order to form an aperture in the dielectric gain guide; and

a second mirror situated on said dielectric gain guide.

2. (Original) The VCSEL of claim 1, further comprising: a substrate; and wherein said first mirror is situated on said substrate; and said substrate comprises InP.

- 3. (Original) The VCSEL of claim 2, wherein said dielectric gain guide is for current confinement.
- 4. (Currently Amended) The VCSEL of claim 3, wherein said dielectric gain guide comprises a material selected from a group of SiO<sub>2</sub>, TiO<sub>2</sub>, and SiN, and the like.
  - 5. (Original) The VCSEL of claim 1, further comprising: a substrate; and wherein:

said mirror is situated on said substrate; and said substrate comprises GaAs.

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- 6. (Original) The VCSEL of claim 5, wherein said dielectric gain guide is for current confinement.
- 7. (Currently Amended) The VCSEL of claim 6, wherein said dielectric gain guide comprises a material selected from a group of SiO<sub>2</sub>, TiO<sub>2</sub>, and SiN, and the like.
- 8. (Currently Amended) A method for making a gain guide for a VCSEL comprising:

forming a first mirror on a substrate;

forming an active region on said first mirror;

forming a dielectric gain guide on said active region;

masking the dielectric gain guide with a mask in order to pattern the dielectric gain guide for an aperture;

forming an aperture in the dielectric gain guide according to the mask; and forming a second mirror on said dielectric gain guide.

9. (Currently Amended) The method of claim 8, wherein the dielectric gain guide comprises a material selected from a group of SiO<sub>2</sub>, TiO<sub>2</sub>, and SiN and wherein masking the dielectric gain guide further comprises one of:

forming the aperture using a lift off technique; or etching the aperture., and the like.

- 10. (Original) The method of claim 9, wherein the first and second mirrors are distributed Bragg reflectors.
- 11. (Original) The method of claim 10, wherein the first mirror is at least nearly lattice matched to the substrate.
  - 12. (Original) The method of claim 11, wherein the substrate comprises InP.
  - 13. (Original) The method of claim 11, wherein the substrate comprises GaAs.

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14. (Currently Amended) A means <u>vertical cavity surface emitting laser</u> for providing laser light comprising:

first reflecting means, situated on a substrate, for reflecting light; active means, situated on said first reflecting means, for converting current to light;

confinement means, situated on said active means, for confining current, wherein the confinement means is patterned with a mask in order to form an aperture therein; and second reflecting means, situated on said confinement means, for reflecting light.

wherein said confinement means comprises a dielectric.

- 15. (Currently Amended) The means vertical cavity surface emitting laser of claim 14, wherein said first means for reflecting comprises <u>first distributed Bragg reflector layers</u> including one or more materials that are a material that is at least nearly lattice matched with the substrate <u>and wherein said second reflecting means comprises second distributed Bragg reflector layers</u>.
- 16. (Currently Amended) The means vertical cavity surface emitting laser of claim 15, wherein said active means is at least nearly lattice matched with said first means for reflecting.
- 17. (Currently Amended) The means vertical cavity surface emitting laser of claim 16, wherein the substrate comprises InP and the dielectric comprises at least one of SiO<sub>2</sub>, TiO<sub>2</sub>, or SiN.
- 18. (Currently Amended) The means vertical cavity surface emitting laser of claim 16, wherein the substrate comprises GaAs and the dielectric comprises at least one of SiO<sub>2</sub>, TiO<sub>2</sub>, or SiN.

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- 19. (Currently Amended) A laser source comprising:
- a first reflector;
- a cavity situated on said first reflector;
- a layer of dielectric, having an opening <u>formed therein</u>, the layer of <u>dielectric formed</u> using a <u>dielectric deposition process</u>, the layer of <u>dielectric</u> situated on said cavity;
- a second reflector situated on said layer, wherein the first reflector, the cavity and the second reflector are formed using an eptiaxial growth process.
- 20. (Original) The source of claim 19, wherein said first reflector is situated on a substrate.
- 21. (Original) The source of claim 20, wherein said first reflector is at least nearly lattice matched with the substrate.
- 22. (Original) The source of claim 21, wherein the laser source has an InP based structure.
- 23. (Original) The source of claim 21, wherein the laser source has a GaAs based structure.
- 24. (Currently Amended) The source of claim 21, wherein said layer comprises at least one material selected from of a group of SiO<sub>2</sub>, TiO<sub>2</sub>, and SiN, and the like.